CONNECTICUT STATE DEPARTMENT OF EDUCATION

ACADEMIC OFFICE
BUREAU OF STUDENT ASSESSMENT

CMT/CAPT—SMARTER BALANCED ASSESSMENT COMPARISON

MATHEMATICS

Grades 3-8 & 11

November 2013

Connecticut Department of Education
165 Capitol Avenue
Hartford, Connecticut 06106

INTRODUCTION

The purpose of this document is to illustrate the shifts in the demand and rigor of the content assessed on the Smarter Balanced Mathematics Practice Tests when compared to the Connecticut Mastery Test (CMT) and the Connecticut Academic Performance Test (CAPT) for Mathematics. In addition, the Smarter Balanced Practice Test items illustrate the various item response types that will be administered online compared to the paper-and-pencil item types on the CMT and CAPT.

For comparative purposes, each grade compares two or three items aligned to Smarter Balanced Claims and Targets to CMT or CAPT items that assess a comparable Strand.

While this document contains some samples of item response types at certain grades, it does not capture the full breadth of the ways in which the Common Core State Standards for Mathematics are measured on the Smarter Balanced summative assessment. Understanding the Common Core State Standards (www.corestandards.org) is critical, and informs educators of grade-specific skills and expectations that guide high quality instruction and best practices.

When referencing the CMT Mathematics sample items, refer to the Connecticut Mastery Test Fourth Generation Mathematics Handbook. When referring to the CAPT Mathematics items, use the 2013 Released Items Packets. Both documents are available on the Connecticut State Department of Education Web site (www.sde.ct.gov/sde).

SMARTER BALANCED PRACTICE TEST

Claim 1, Target F: **Develop understanding of fractions as numbers.**

Grade 3

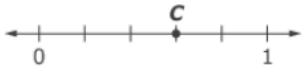
548

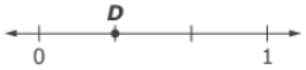
Use this number line to answer the question that follows.

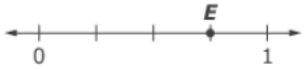
Choose all the number lines that show a fraction equal to the fraction shown by point *P*.

☐ 

☐ 

☐ 

☐ 

☐ 

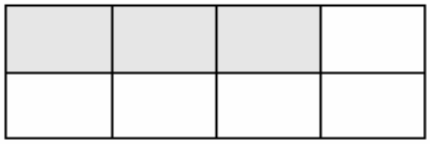
For this item, a full-credit (1 point) response includes:
☐ option A

AND
☐ option B

CONNECTICUT MASTERY TEST

2. Pictorial Representations of Numbers - MC

What part of this shape is shaded?



○ $\frac{1}{8}$

○ $\frac{1}{3}$

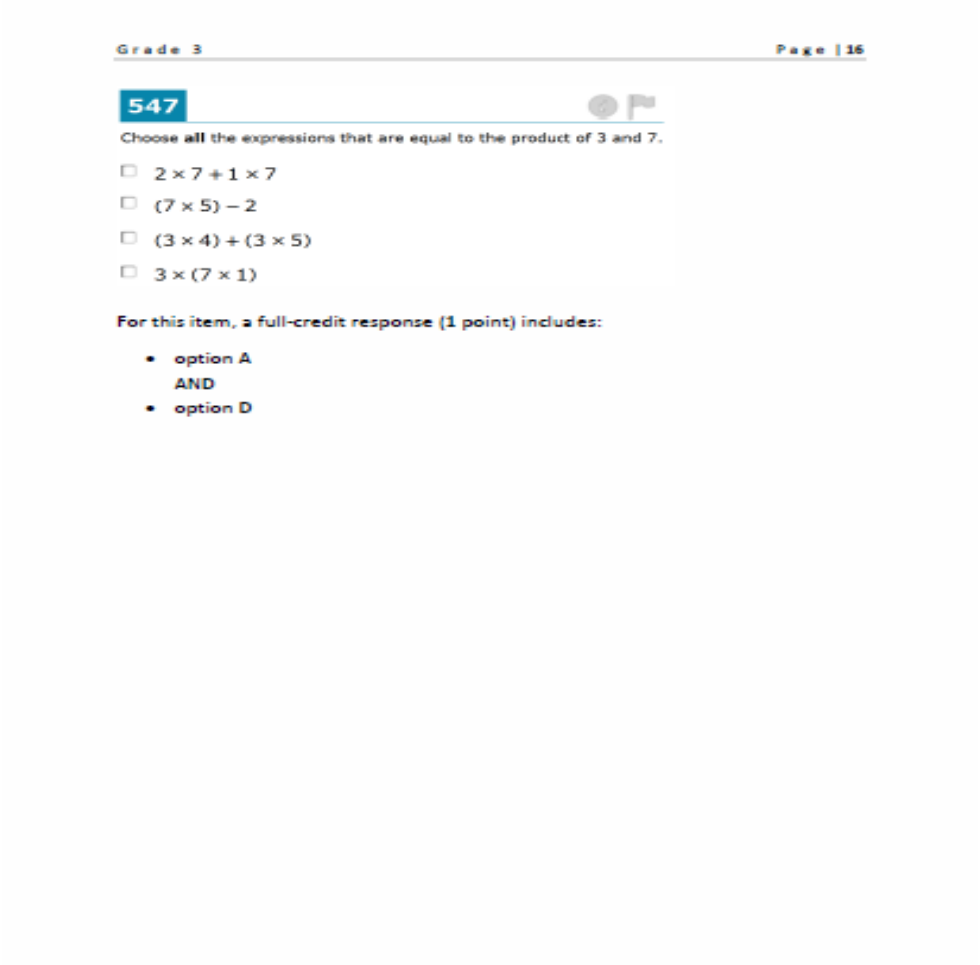
◉ $\frac{3}{8}$

○ $\frac{3}{5}$

SMARTER BALANCED PRACTICE TEST

Claim 1, Target B: **Understand properties of multiplication and the relationship between multiplication and division.**

Grade 3



Grade 3 Page | 16

547

Choose **all** the expressions that are equal to the product of 3 and 7.

- ☐ $2 \times 7 + 1 \times 7$
- ☐ $(7 \times 5) - 2$
- ☐ $(3 \times 4) + (3 \times 5)$
- ☐ $3 \times (7 \times 1)$

For this item, a full-credit response (1 point) includes:

- option A
  AND
- option D

CONNECTICUT MASTERY TEST

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6. Basic Facts - MC

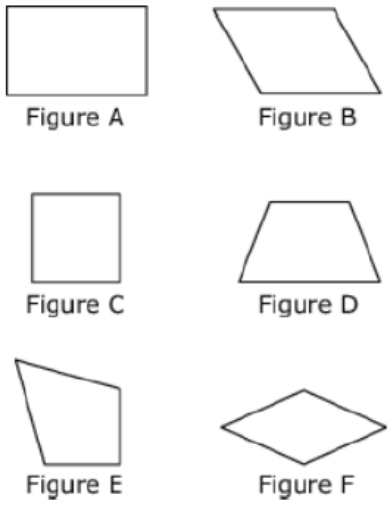
$2\overline{)18}$

- ○ 7
- ○ 8
- ◉ 9
- ○ 16

Claim 3, Target E: **Distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in the argument—explain what it is.**

Domain – Geometry

Look at these figures.



545

Part A

Susan says that all of the figures are parallelograms because they have exactly four sides. Is she correct? Explain your answer.

For this item, a full-credit response (1 point) includes:

- stating that Susan is incorrect and an explanation as to why she is incorrect

For example,

- "No, because parallelograms have two pairs of parallel sides."
  OR
- "She is incorrect, because some of the figures do not have two pairs of parallel sides."

For this item, an incorrect response (0 points) includes:

- stating that Susan is correct
  OR
- stating that Susan is incorrect and giving an incorrect explanation

For example,

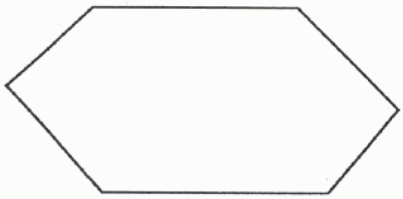
- "No, because parallelograms need to have 4 sides."
  OR
- "She is correct, because parallelograms only need 4 angles."

This item is not graded on spelling or grammar.

CONNECTICUT MASTERY TEST

17. Geometric Shapes and Properties - MC

How many sides does this figure have?



- ○ 4
- ○ 5
- ◉ 6
- ○ 7

Claim 1, Target E: **Use place value understanding and properties of operations to perform multi-digit arithmetic.**

Grade 4

579

Drag one number into each box to complete the subtraction problem shown.

0 1 2 3 4 5 6 7 8 9

Delete

$$\begin{array}{r} 5\,0\square 6 \\ -\ \square 4\,8\,\square \\ \hline 1\,6\square 8 \end{array}$$

For this item, a full-credit response (1 point) includes:

- the correct equation

$$\begin{array}{r} 5\,0\boxed{9}6 \\ -\ \boxed{3}4\,8\,\boxed{8} \\ \hline 1\,6\boxed{0}8 \end{array}$$

SMARTER BALANCED PRACTICE TEST

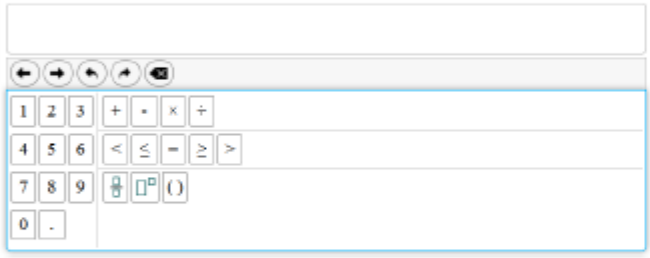
Claim 1, Target A: Write and interpret numerical expressions.

Grade 5 Page | 21

628

Tyler is 8 years old. His sister Olivia is 4 years less than twice his age.

Write a numerical expression for Olivia's age.



For this item, a full-credit response (1 point) includes:

- an expression equivalent to $(2 \times 8) - 4$

CONNECTICUT MASTERY TEST

5. Models for Operations - MC

At the start of the marathon, 670 runners were registered. Only 589 runners crossed the finish line. Which number sentence could be used to find out how many runners did **not** cross the finish line?

- ○ 670 × 589 = □
- ◉ 670 − 589 = □
- ○ 670 : 589 = □
- ○ 670 + 589 = □

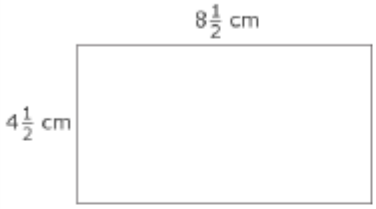
SMARTER BALANCED PRACTICE TEST

Claim 1, Target F: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Grade 5

622

Look at the rectangle.



What is the area of the rectangle in square centimeters?

For this item, a full-credit response (1 point) includes:

- the value $38\frac{1}{4}$

CONNECTICUT MASTERY TEST

8. Computation with Fractions and Integers - MC

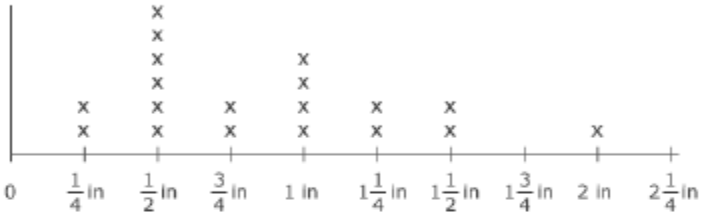
$$\begin{array}{r} 2\frac{1}{6} \\ +3\frac{4}{6} \\ \hline \end{array}$$

- ○ $6\frac{5}{6}$
- ◉ $5\frac{5}{6}$
- ○ $5\frac{5}{12}$
- ○ $1\frac{1}{2}$

Claim 1, Target H: **Represent and interpret data.**

627

This line plot shows the heights of the bean plants in a garden after 3 weeks.



Height of Bean Plants After 3 Weeks

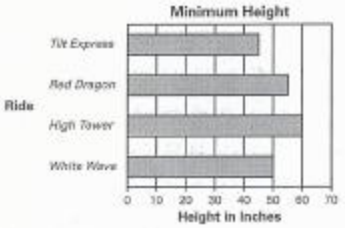
What is the total height, in inches, of all the bean plants that are taller than 1 inch?

For this item, a full-credit response (1 point) includes:

- the value $7\frac{1}{2}$

19. Tables, Graphs and Charts - MC

The amusement park set minimum heights for riders.



How many inches tall must a rider be to ride the *Red Dragon* ride?

- ○ 40 inches
- ○ 50 inches
- ◉ 55 inches
- ○ 60 inches

SMARTER BALANCED PRACTICE TEST

Claim 3, Target G: **At later grades, determine conditions under which an argument does and does not apply. (For example, area increases with perimeter for squares, but not for all plane figures.)**

Domain - Measurement & Data

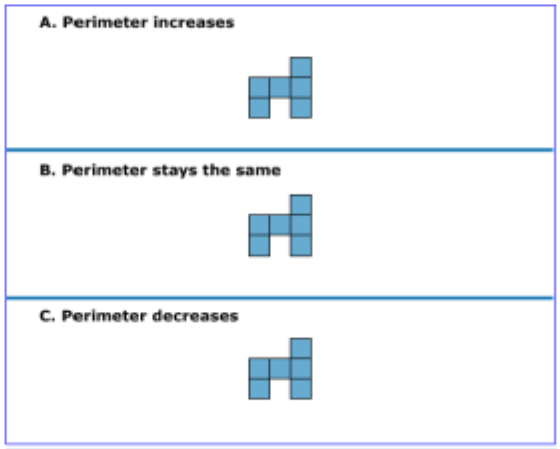
606

William used 6 squares to make the figure shown.

A. Click to add a square so that the perimeter increases.

B. Click to add a square so that the perimeter stays the same.

C. Click to add a square so that the perimeter decreases.



For this item, a full-credit response (3 points) includes:

- a shape with a perimeter greater than 14 units
  AND
- a shape with a perimeter of 14 units
  AND
- A shape with a perimeter of less than 14 units

For partial credit, the student completes each task for 1 point.

For example,

- 
  AND
- 
  AND
- 

CONNECTICUT MASTERY TEST

16. Customary and Metric Measures - OE

S-2 Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.

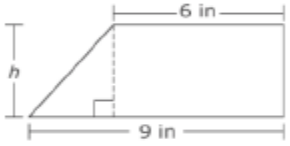
Perimeter: _____

SMARTER BALANCED PRACTICE TEST

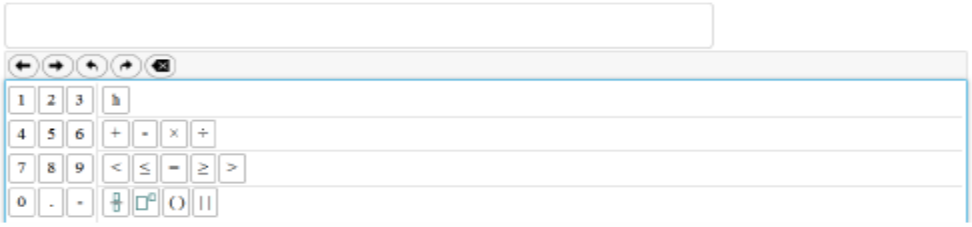
Claim 1, Target H: **Solve real-world and mathematical problems involving area, surface area, and volume.**

631

The trapezoid shown is divided into a right triangle and a rectangle.



Use the Equation Tool to create an expression that could be used to determine the area of the trapezoid.



For this item, a full-credit response (1 point) includes:

- an expression equivalent to $\frac{1}{2}(3 \times h) + (h \times 6)$

CONNECTICUT MASTERY TEST

16. Customary and Metric Measures - OE

8-3 Use your ruler to measure the lengths of the sides. Label each length in inches. What is the area of this figure in square inches?

Area: _____

SMARTER BALANCED PRACTICE TEST

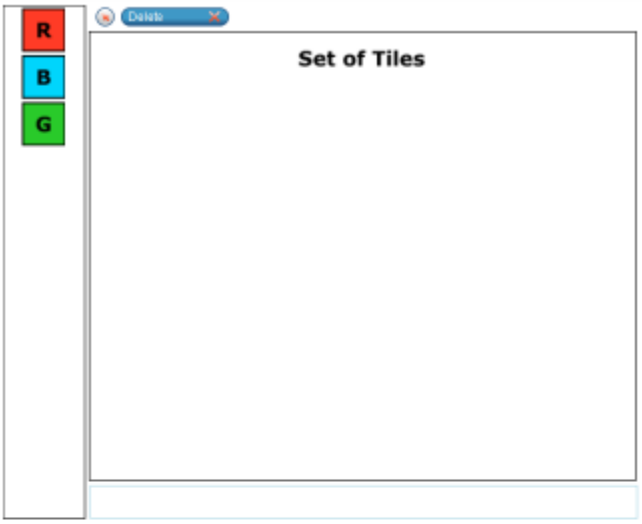
Claim 1, Target A: **Understand ratio concepts and use ratio reasoning to solve problems.**

632

An artist is using red, blue, and green tiles to create a mosaic.

- The ratio of red tiles to total tiles should be 2:5.
- For every 2 blue tiles, there should be 1 green tile.

Drag tiles into the space to create a set of tiles the artist could use.



For this item, a full-credit response (2 points) includes:

- $\frac{2}{5}$ of the total tiles being red
  AND
- $\frac{2}{5}$ of the total tiles being blue
  AND
- $\frac{1}{5}$ of the total tiles being green

For partial credit (1 point), a student creates a set that satisfies

- the first condition
  OR
- the last two conditions

12. Ratios and Proportions - MC

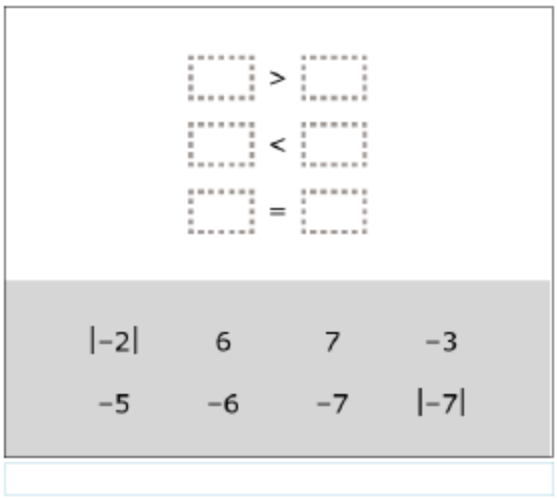
Tina figured she was charged 5¢ for every 1 minute she talked on the phone to her aunt. Which shows this same ratio?

- ○ 10¢ for every 3 minutes
- ○ 20¢ for every 5 minutes
- ○ 30¢ for every 4 minutes
- ◉ 40¢ for every 8 minutes

Claim 1, Target D: **Apply and extend previous understandings of numbers to the system of rational numbers.**

633

Drag one number into each box to create three true mathematical statements.



For this item, a full-credit response (2 points) includes

- a value on the left that is greater than the value on the right for the first statement
  AND
- a value on the left that is less than the value on the right for the second statement
  AND
- a value on the left that is equal to the value on the right for the third statement

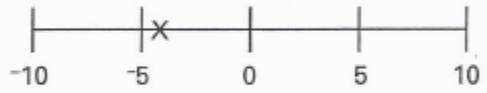
For partial credit (1 point), a student creates any two correct statements.

For example,

- $6 > -6$
  AND
- $-3 < |-2|$
  AND
- $7 = |-7|$

4. Order, Magnitude and Rounding of Numbers - MC

12 The "x" on the number line **most** likely represents which integer?

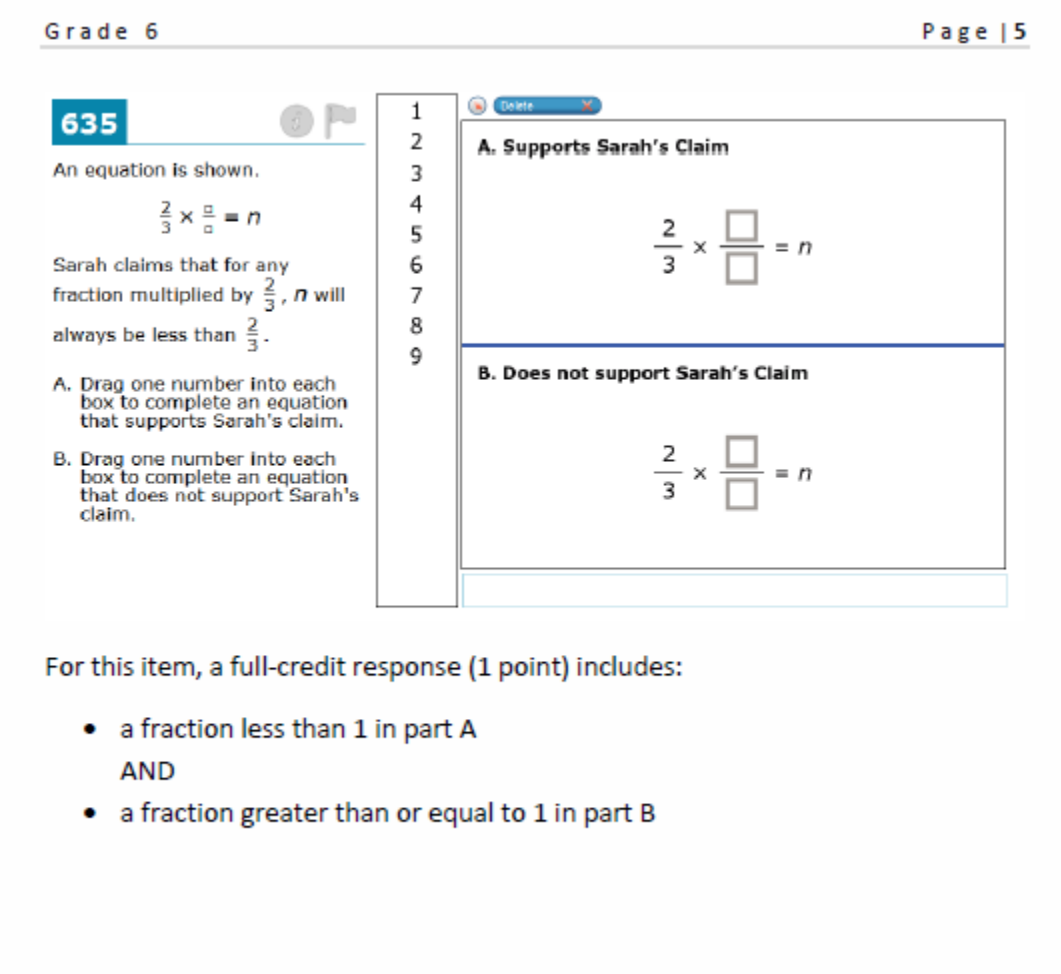


- ○ 4
- ○ −1
- ◉ −4
- ○ −6

SMARTER BALANCED PRACTICE TEST

Claim 3, Target A: **Test propositions or conjectures with specific examples.**

Domain - The Number System

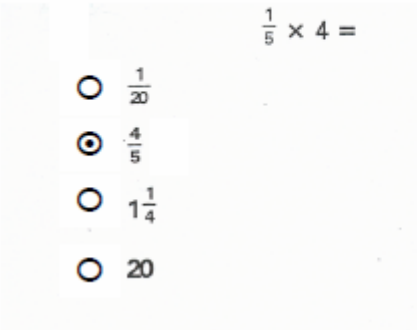


For this item, a full-credit response (1 point) includes:

- a fraction less than 1 in part A
  AND
- a fraction greater than or equal to 1 in part B

CONNECTICUT MASTERY TEST

8. Computations with Fractions and Integers - MC



SMARTER BALANCED PRACTICE TEST

Claim 3, Target D: **Use the technique of breaking an argument into cases.**

Domain - Expressions & Equations

736

George's weekly pay rate is $455 per week.
He receives a 20% raise.

How can George calculate his new weekly wage rate?

Drag each calculation to the category that correctly describes whether the calculation on its own can find George's new weekly pay rate.

Finds new wage rate	Does not find new wage rate

Divide $455 by 0.20

Multiply $455 by 0.20

Solve for x: $\frac{x}{455}=\frac{120}{100}$

Solve for x: $\frac{455}{x}=\frac{20}{100}$

Divide $455 by 1.20

Multiply $455 by 1.20

For this item, a full-credit response (3 point) includes:

- "Multiply $455 by 1.20" and "Solve for x: $\frac{x}{455}=\frac{120}{100}$" in the "Finds new wage rate" column
  AND
- "Divide $455 by 0.20", "Divide $455 by 1.20", "Multiply $455 by 0.20", and "Solve for x: $\frac{455}{x}=\frac{20}{100}$" in the "Does not find new wage rate" column

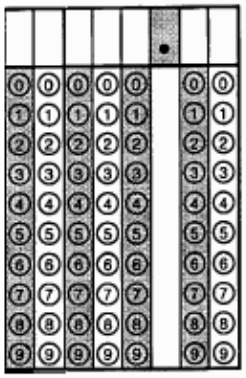
For partial credit, the student

- correctly places 5 out of 6 responses (2 point)
  OR
- correctly places 4 out of 6 responses (1 point)

CONNECTICUT MASTERY TEST

13. Computation with Percents - GR

A dress shop owner put 75% of his 160 items on sale. How many items were on sale?



Claim 3, Target D: Use the technique of breaking an argument into cases.
Domain: The Number System

738

An equation is shown.

$a \cdot b = c$

Given this equation, drag one value into each box to complete four different equations. Assume a, b, and c are not 0.

a
b
c
$-a$
$-b$
$-c$

Delete

$-a \cdot \square = c$

$\square \cdot \square = -c$

$\frac{\square}{-b} = a$

$\frac{\square}{\square} = -a$

The full-credit (2 point) response includes:

- $-a \cdot -b = c$
  AND
- $-a \cdot b = c$ OR $a \cdot -b = c$
  AND
- $\frac{-c}{-b} = a$
  AND
- $\frac{c}{-b} = -a$ OR $\frac{-c}{b} = -a$

For partial credit (1 point), the student correctly completes two equations.

CONNECTICUT MASTERY TEST

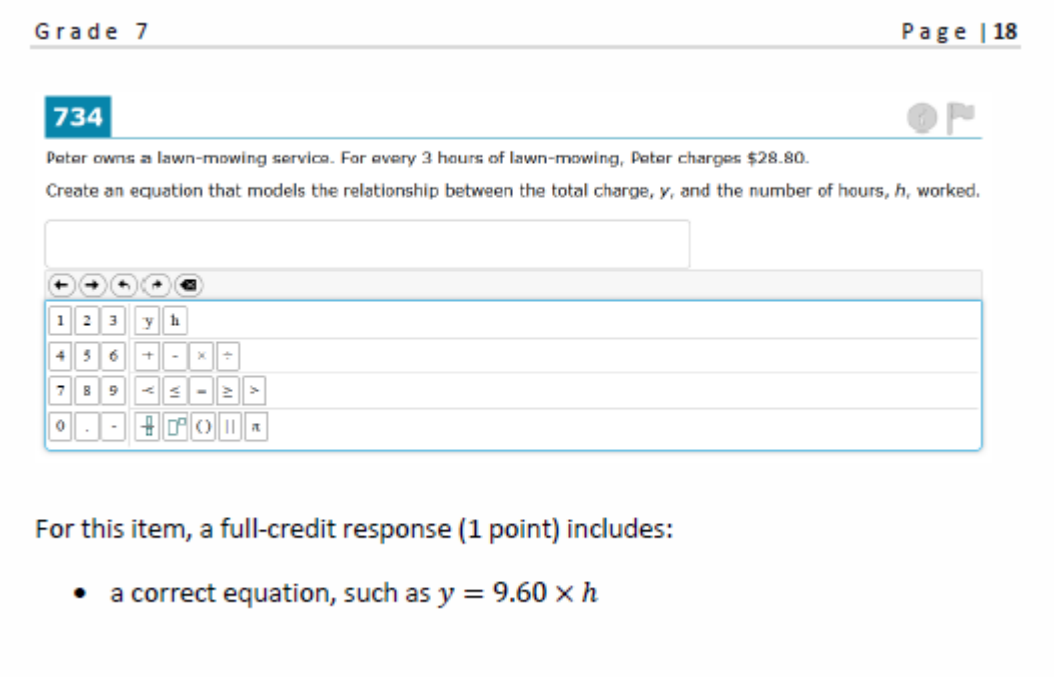
8. Computation with Fractions and Integers - MC

$3 + {}^{-}5 =$

- ○ $^{-}8$
- ◉ $^{-}2$
- ○ 2
- ○ 8

SMARTER BALANCED PRACTICE TEST

Claim 1, Target A: **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

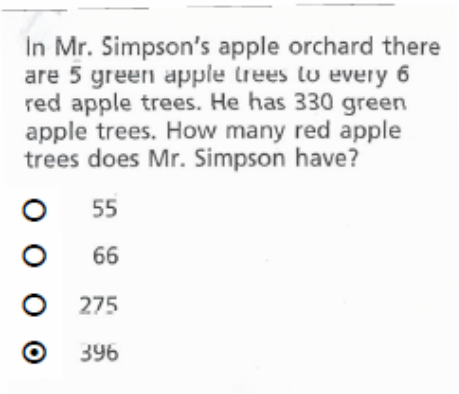


For this item, a full-credit response (1 point) includes:

- a correct equation, such as $y = 9.60 \times h$

CONNECTICUT MASTERY TEST

12. Ratios and Proportions - MC



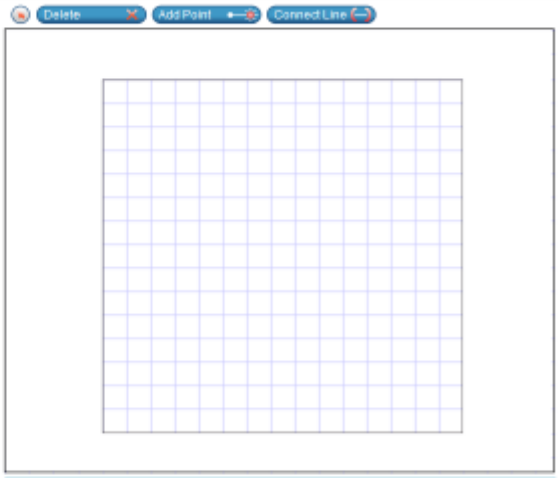
SMARTER BALANCED PRACTICE TEST

Claim 2, Target A: **Apply mathematics to solve well-posed problems arising in everyday life, society, and the workplace.**

Domain - Geometry

759

On the grid provided, draw a right triangle with whole number side lengths and a hypotenuse of 10 units. The length of the side of each square is one unit.



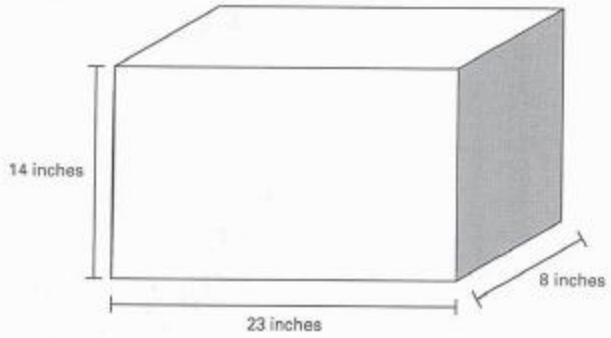
For this item, a full-credit response (1 point) includes:

- a right triangle with leg lengths of 6 units and 8 units and a hypotenuse of 10 units

CONNECTICUT MASTERY TEST

16. Customary and Metric Measures - OE

S-3 Phil made sand art decorations. He had a rectangular container that he filled $\frac{1}{2}$ way full of sand. The picture shows the dimensions of the container.



What is the **volume** of the space that Phil filled with sand? _____

Show your work or explain how you found your answer.

SMARTER BALANCED PRACTICE TEST

Claim 1, Target B: Work with radicals and integer exponents.

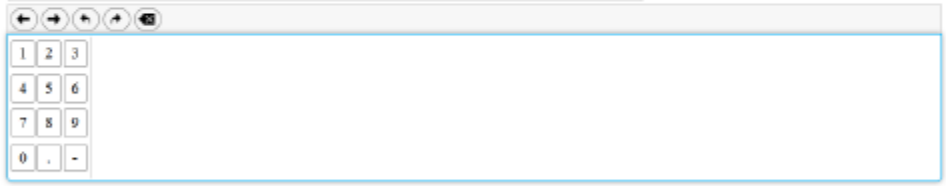
Grade 8 Page | 2

778

A square, with side length s, has an area of 324 square centimeters. This equation shows the area of the square.

$s^2 = 324$

What is the side length of the square in centimeters?



For this item, a full-credit response (1 point) includes:

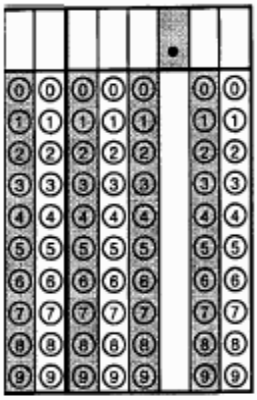
- the value 18

CONNECTICUT MASTERY TEST

23. Algebraic Concepts - GR

What is the value of x in this equation?

$$2x - 4.01 = 7.13$$



SMARTER BALANCED PRACTICE TEST

Claim 1, Target H: Understand and apply the Pythagorean theorem.

Grade 8 Page | 11

Two sides of a right triangle have lengths of $\sqrt{10}$ units and $\sqrt{6}$ units. There are two possible lengths for the third side.

774

Part A

What is the shortest possible side length, in units?

For this item, a full-credit response (1 point) includes:

- the value 2

CONNECTICUT MASTERY TEST

17. Geometric Shapes and Properties - MC

The picture below shows two flagpoles.

These flagpoles appear to create what kind of lines?

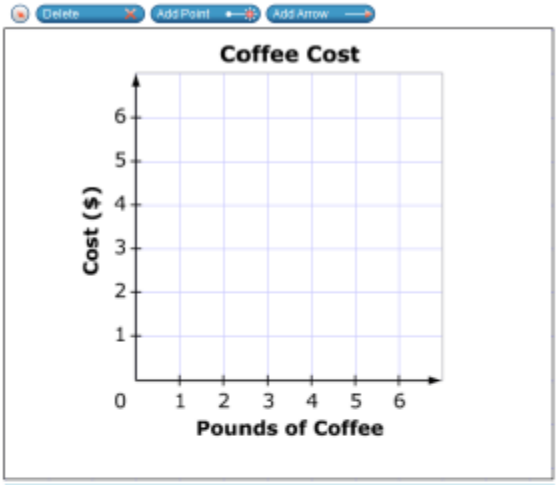
- Parallel
- Perpendicular
- Intersecting
- Obtuse

Claim 1, Target C: **Understand the connections between proportional relationships, lines, and linear equations.**

766

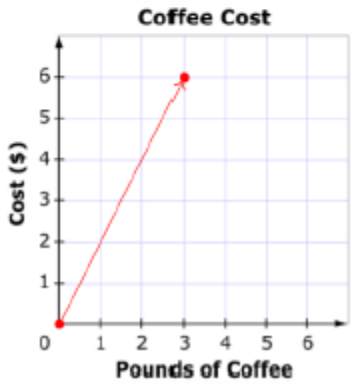
Coffee costs $2.00 per pound at a coffee shop.

Use the Add Arrow tool to draw a line that shows the proportional relationship between the number of pounds of coffee purchased and the total cost.



For this item, a full-credit response (1 point) includes:

- a correct ray constructed



CONNECTICUT MASTERY TEST

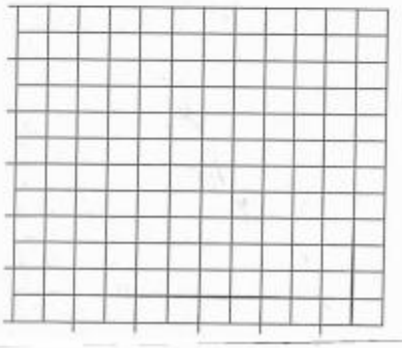
19. Tables, Graphs and Charts - OE

The table shows the number of years ago several kinds of clothing were first worn.

Early Kinds of Clothing

Kind	Number of Years Ago
Belts and Trousers	30,000
Knitted Skirts	20,000
Cotton	6,500
Silk	5,000
Buttoned Garments	13,000

Complete a **bar** graph to show the same information.



Claim 1, Target D: **Analyze and solve linear equations and pairs of simultaneous linear equations.**

758

Drag numbers into the boxes to complete each equation with the given number of solutions.

0 1 2 3 4 5 6 7 8 9

Delete

A. Equation with no solutions

$8x - 3x + 2 - x = \square x + \square$

B. Equation with one solution

$8x - 3x + 2 - x = \square x + \square$

C. Equation with infinitely many solutions

$8x - 3x + 2 - x = \square x + \square$

For this item, a full-credit response (2 point) includes:

- an equation with a slope of 4 and an intercept that is not 2 for part A
  AND
- an equation that does not have a slope of 4 for part B
  AND
- an equation with a slope of 4 and an intercept of 2 for part C

For partial credit (1 point), the student correctly answers part B and either part A or part C.

For example,

- $8x - 3x + 2 - x = 4x + 3$
  AND
- $8x - 3x + 2 - x = 3x + 3$
  AND
- $8x - 3x + 2 - x = 4x + 2$

23. Algebraic Concepts - MC

Wendy was a painter. She paid $14.00 for each gallon of paint she bought. She also bought a new brush for $4.99. If x represents the number of gallons of paint she bought, which expression shows the amount of money she spent on paint and the brush?

- ○ $14 - 4.99x$
- ○ $14x - 4.99$
- ○ $14 + 4.99x$
- ◉ $14x + 4.99$

SMARTER BALANCED PRACTICE TEST

Claim 1, Target E: **Write expressions in equivalent forms to solve problems.**

Conceptual Category - Algebra

666

Consider the function $f(x) = x^2 - 5x - 14$.
Which of the numbers in the chart are zeros of the function?
Select Yes or No in each row.

$f(x) = x^2 - 5x - 14$

Is this a zero of the function?	Yes	No
2		
7		
-2		
-7		

For this item, a full-credit response (2 points) includes:

- a check in the "No" column for 2
  AND
- a check in the "Yes" column for 7
  AND
- a check in the "Yes" column for –2
  AND
- a check in the "No" column for –7

For partial credit (1 point), the student correctly checks at least 3 boxes.

CAPT Mathematics Grid-In Item:
Crickets and Temperature
Algebraic Reasoning

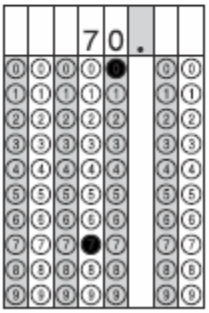
4. The rate at which a cricket chirps is related to the temperature. The number of chirps that a cricket makes per minute can be approximated by the formula

$$c = 4T - 148$$

where

- c is the number of chirps a cricket makes **per minute**, and
- T is the temperature in degrees Fahrenheit.

Joe counts 22 chirps from a single cricket in 10 seconds. Based on the formula, what is the temperature in degrees Fahrenheit?



SMARTER BALANCED PRACTICE TEST

Claim 3, Target D: **Use the technique of breaking an argument into cases.**

Conceptual Category - Geometry

682

Consider triangle *ABC*, where angle *C* is a right angle.

Drag possible measures of angle *A* into the correct column.

cos *A* < sin *A*	cos *A* = sin *A*	cos *A* > sin *A*

Possible Measures of Angle *A*

5° 15° 25° 35° 45° 55° 65° 75° 85°

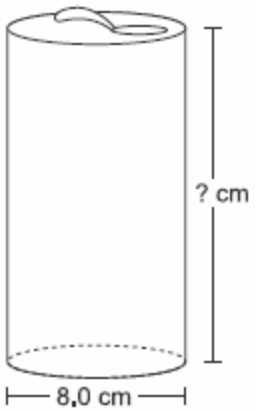
For this item, a full-credit response (2 points) includes:

- $55^o, 65^o, 75^o$, and 85^o in the "$cosA < sinA$" column
  AND
- 45^o in the "$cosA = sinA$" column
  AND
- $5^o, 15^o, 25^o$, and 35^o in the "$cosA > sinA$" column

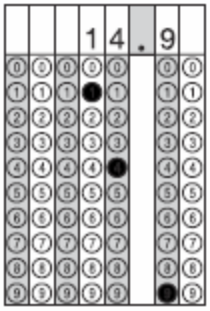
For partial credit (1 point), the student correctly fills out 2 columns.

CAPT Mathematics Grid-In Item:
Water Bottle
Geometry and Measurement

3. A manufacturer is designing a cylindrical water bottle to fit in car cup holders. The bottle will hold 750.0 cm^3 of water when filled to the top and will be 8.0 cm wide.



What will be the height of the water bottle? Round your answer to the nearest tenth of a centimeter.



SMARTER BALANCED PRACTICE TEST

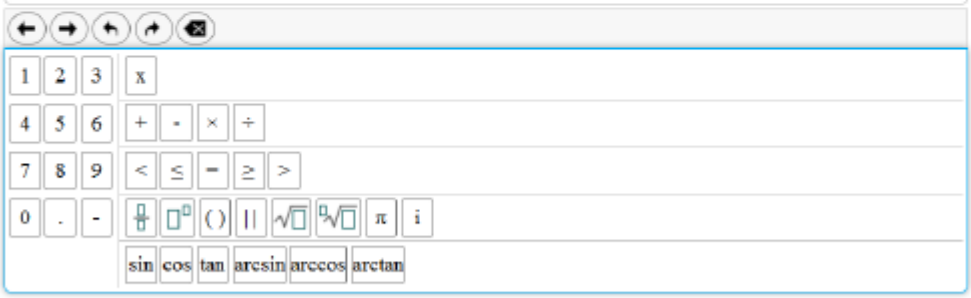
Claim 2, Target D: **Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).**

Conceptual Category - Algebra

The $1000 prize for a lottery is to be divided evenly among the winners. Initially there are x winners, but then one more winner comes forward, causing each winner to receive $50 less.

681

Create an equation that represents the situation and can be used to solve for x, the initial number of winners.



For this item, a full-credit response (1 point) includes:

- a correct equation, such as $\frac{1000}{x} = \frac{1000}{(x+1)} + 50$

Light Rail Cost
Algebraic Reasoning

1. A city is adding light rail to its public transportation system. The table below shows the estimated annual costs for the light rail during the first 4 years of construction.

Light Rail Estimated Annual Construction Cost

Year	Estimated Cost (millions of dollars)
1	75.0
2	77.7
3	80.4
4	83.1
5	—
6	—
7	—
8	—
9	—
10	—

a. Assume the estimated cost continues to follow the pattern shown in the table. Predict the estimated cost in year 10. Show your work or explain how you found your answer.

b. After a few years, the construction costs were reviewed. The **actual** cost for the project was $60.0 million in year 1, and it has been increasing by an average of $5.1 million per year. Based on this information, what will be the first year that the **actual** cost is greater than the estimated cost? Show your work or explain how you found your answer. A grid is provided for your use if you need it.

Remember to show your work and write your answer in your answer booklet.

SMARTER BALANCED PRACTICE TEST

Claim 2, Target D: **Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).**

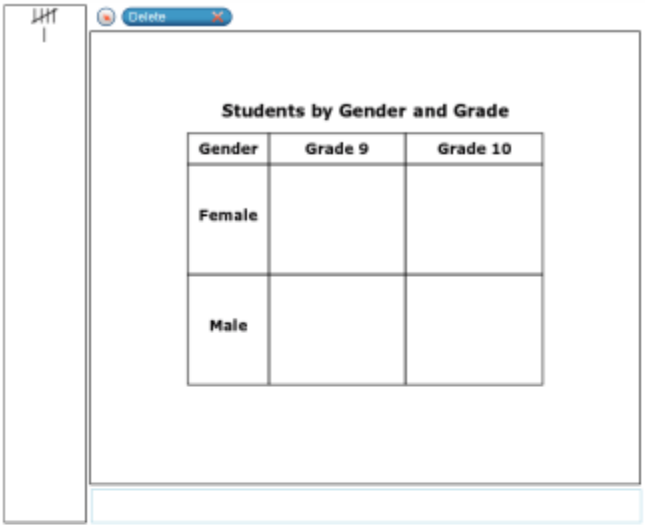
Conceptual Category - Statistics & Probability

202

A teacher has a classroom with 30 boys and girls. The class has both 9th and 10th graders.

The probability of a randomly selected student from the class being a female **or** in grade 9 is equal to $\frac{19}{30}$.

Drag tick marks into each section of the chart to show how this can be true.



For this item, a full-credit response (1 point) includes

- 11 tally marks in the "Grade 10 Male" box
  AND
- a total of 19 tally marks in the "Grade 10 Female," "Grade 9 Male," and "Grade 9 Female" boxes combined

For example,

Gender	Grade 9	Grade 10
Female	𝍸 |	𝍸 ||
Male	𝍸 |	𝍸 𝍸 |

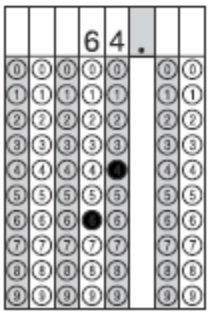
CAPT Mathematics Grid-In Item:
Spring Break
Working with Data: Probability and Statistics

5. A reporter for the school newspaper asked 75 randomly selected students if they would be traveling over spring break. Students who responded that they would be traveling were asked whether they would be traveling by plane, train, car, or bus. The table below shows the results of the poll.

Student Travel Over Spring Break

Travel Plans	Number of Students
Not traveling	34
Traveling by plane	10
Traveling by train	6
Traveling by car	23
Traveling by bus	2

The school has 480 students. Based on the results of the poll, how many of the school's students should be expected to travel by plane over spring break?



SMARTER BALANCED PRACTICE TEST

Claim 2, Target D: **Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).**

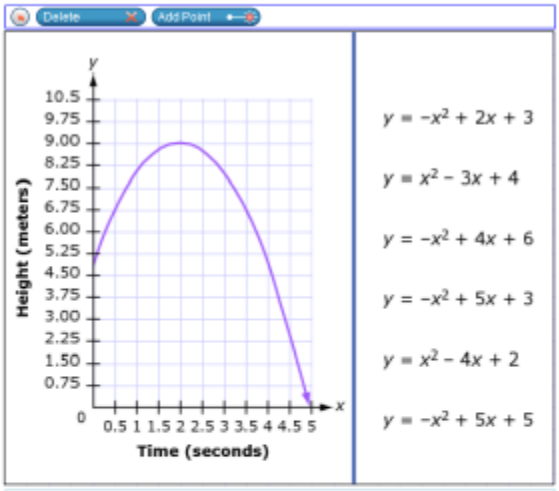
Conceptual Category - Functions

683

A ball is thrown in the air. The height of the ball in terms of time is modeled by the graph shown.

A second ball is thrown from a lower initial height and reaches a higher maximum height.

- Select an equation that represents the height of the second ball in terms of time.
- Use the Add Point tool to plot two points on the grid: the initial height of the second ball and its maximum height.



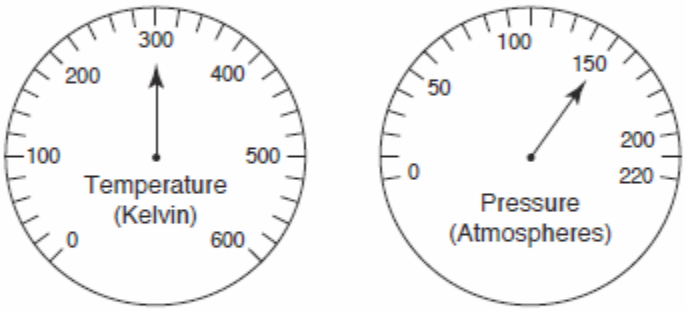
For this item, a full-credit response (2 points) includes:

- the equation $y = -x^2 + 5x + 3$
  AND
- a point at $(0, 3)$ and $(2.5, 9.25)$

For partial credit, the student completes the above tasks for 1 point.

Gases
Numerical and Proportional Reasoning

2. Gases are measured using three quantities—temperature (Kelvin), volume (liters), and pressure (atmospheres). If the volume is constant, the pressure varies directly with the temperature.



Temperature and pressure gauges on a tank containing a gas are shown above. The tank contains a constant volume of gas. The temperature of the gas in the tank is increasing by 58 Kelvin every 5 minutes.

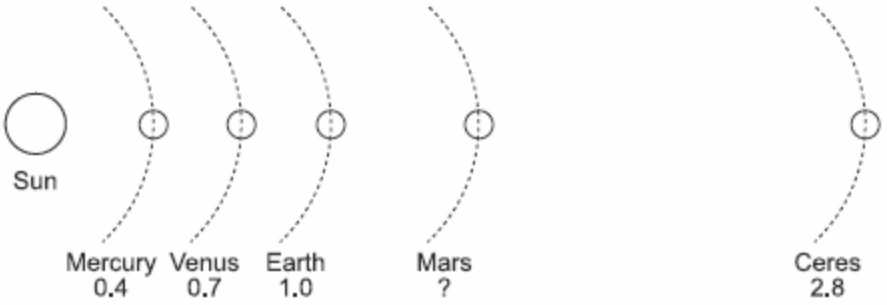
If the temperature continues to increase at this rate, how long will it take for the pressure of the gas to reach 220 atmospheres? Show your work or explain how you found your answer.

Remember to show your work and write your answer in your answer booklet.

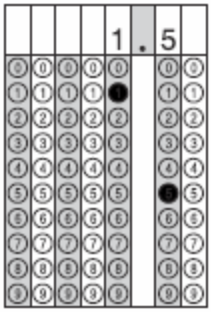
CAPT Mathematics Grid-In Item:
Solar System
Numerical and Proportional Reasoning

Use your ruler to help you answer this question.

6. The distance from Earth to the sun is 1.0 AU (Astronomical Unit). The scale drawing below shows the locations of the planets Mercury, Venus, Earth, Mars, and Ceres relative to the sun, together with their approximate distance in AUs. Assume the distances are measured from the center of the sun.



The distance, in AUs, for Mars is missing. What is the approximate distance from the sun to Mars, in AUs? Round your answer to the nearest tenth of an AU.



Answers ranging from 1.4 – 1.7 are acceptable.